

WELL SUMMARY

page 1 of 3Location ID: ST-1-473 Field Representative(s): Cooper/ContaldoNorthing: 229161.29 Easting: 401136.07Date Started: 15 May 1989 Date Completed: 30 May 1989Drilling Method: Mud/Air-Foam Rotary Drilling Contractor: LarjonDriller: T. CrawfordTotal Depth Borehole: 522.0' Total Depth Well Casing: 488.4'Total Depth Surface Casing: 82.0'Diameter Well Casing: 4" Diameter Surface Casing: 10"Length of Bottom Blank: 5'Type of Screen: 10.4' Extra Strength 0.02 slotScreen Interval: 472.7' to 483.1'Water First Detected: 477.0' Water Level Open Borehole: 431.35'
(from grade)Water Level Cased Borehole: 434.09' (I.C.)
1750 on 6/1/89

EZ Mud Use: 7 gallons

Quik-Foam Use: 4 gallons

Estimated Water Use: 5,950 gallons used during drilling
-4,787 gallons recirculated
1,163 gallons introduced into boreholeWell Casing:

4in x 3ft SCD 40 PVC:	stock SS centralizers:	0
4in x 5ft SCD 40 PVC:	custom SS centralizers:	1
4in x 10ft SCD 40 PVC:	4"x2' SS locking riser:	1
4in x 20ft SCD 40 PVC:	4" SS locking cap:	1
Total SCD 40 PVC pipe: 0 ft	4" SS female cap:	1
4in x 3ft SCD 5 SS pipe: 1		
4in x 5ft SCD 5 SS pipe: 1	4in x 5ft SCD 10 SS pipe:	1
4in x 10ft SCD 5 SS pipe: 0	4in x 10ft SCD 10 SS pipe:	1
4in x 20ft SCD 5 SS pipe: 20	4in x 20ft SCD 10 SS pipe:	5
Total SCD 5 SS pipe: 408 ft	Total SCD 10 SS pipe:	115 ft

Well Completion:

100# bags 16/40 sand:	20	bags
100# bags 10/20 sand:	0	bags
100# bags 8/14 sand:	0	bags
100# bags 8/20 sand:	24	bags
94# bags cement:	190	bags
5 gal. buckets bentonite:	2	buckets
50# bentonite powder:	19	bags
50# Benseal	1/2	bag
EZ Mud	1	cup

Surface Casing:

94# bags cement:	0	bags
50# bags bentonite powder:	9	bags
Grout	0	bags

Pertinent Field Notes:

05/16/89 Drilled to 10' with 12 1/4" bit using mud rotary. - Contaldo

05/17/89 Drilled to 85' with 12 1/4" bit using mud rotary. Reamed hole to 16", 0 to 55'. - Contaldo

05/18/89 Reamed hole 55' to 85'. 10" surface casing to 82'. - Contaldo

05/19/89 Grouted surface casing. - Contaldo

05/22/89 Drilled from 82'-415' using air-foam rotary. - Contaldo

05/23/89 Drilled from 415'-515' using air-foam rotary. First observed water at 477', produced ample quantities at 495'. Cored from 515'-522' using Christiansen core barrel. - Contaldo

05/24/89 Sounded borehole at 512'. Measured water level at 431.35' (ground surface). Installed 16/40 sand to 497.0'. Installed bottom plug (bentonite pellets) and sounded at 489.5'. - Contaldo

- 05/25/89 Sounded bottom plug at \approx 488.4. Installed 5' SCD 10 sump, 10' extra strength screen, 90' SCD 10 stainless steel, and 385' SCD 5 stainless steel. Installed gravel pack around screen with 8/20 sand. Bailed to set gravel pack, added 16/40 sand above gravel pack and pumped Benseal/E-Z mud plug. Screen set at 473'-483'.
- Cooper, Kaszuba
- 05/26/89 Sounded upper plug (6.1' thick). Added sand above upper plug to \approx 13' above static water level at 3:1 ratio of 8/20: 16/40 mix. Poured 100 sacks cement and 10 sacks gel for 1st load of grout. Ran bailer to check well for grout invasion and bailer came up clean. - Cooper
- 05/30/89 Mixed 90 sacks cement and 10 sacks gel for 2nd load of grout (90 sacks cement, 9 sacks gel). Poured grout to surface and set guard pipe. Poured concrete pad and set brass cap. - Cooper
- 06/01/89 Surge and bailed well with surge block and bailer. Set 2 hp submersible pump at 475'. Developed until pH, conductivity and temperature stabilized. Developed longer to try and bring turbidity down below 5. Developed \approx 1950 gallons and turbidity dropped to 1.5 NTU. Well developed. See development sheet for details. - Cooper